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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/800,064 | 03/06/2001 | Andrea Jessec | M61.12-0328 | 4125 |

7590 09/30/2004

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| EXAMINER |
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HAN, QI

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| ART UNIT | PAPER NUMBER |
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2654

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/800,064

Applicant(s)

JESSEE ET AL.

Examiner

Qi Han

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/7/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The references listed in the Information Disclosure Statement submitted on 06/07/2001 and 06/10/2004 have been considered by the examiner (see attached PTO-1449).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-10 and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zamora et al. (US 4887212), hereinafter referenced as Zamora, in view of Kucera et al. (US 4864502), hereinafter referenced as Kucera, and further in view of Anick et al. (US 5559693), hereinafter referenced as Anick.

As per **claim 10**, Zamora discloses parser for natural language text (title), comprising:

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a lexicon and a morphology table stored on a computer readable medium (column 2, lines 52-67, 'morphological analysis', 'dictionary (lexicon) look-up'; column 27, lines 15-16, 'parsing natural language text in a computer having memory');

a sentence analysis engine receiving the sentence and generating a parsed noun phrase combination and a verb phrase, the sentence analysis engine accessing the morphology table and providing an initial case combination associated with the noun phrase combination, (column 2, lines 149-60, 'natural language text parser (sentence analysis engine)', 'sequential steps of word isolation, morphological analysis, 'dictionary (lexicon) look-up combined with a complement grammar analysis, are applied to an input data stream of words (necessarily includes sentence)', 'word expert rules, verb group analysis ... are then applied to provide output data structure where the words in the input data stream are associated with their respective parts of speech and are grouped with appropriate phrase markings'; column 6, lines 20-26, 'verb groups', 'noun phrase');

an error detecting function accessing the lexicon and generating a correct case combination associated with the verb phrase; the error detecting function comparing the case combination to the correct case combination and generating a case error combination (column 6, lines 35-43, 'identification of word components which make possible to match (compare) against a dictionary (lexicon); column 6, lines 35-43, 'a grammar violation analysis (error detecting function)', 'the error noted are marked by indicating ... error has occurred');

But, Zamora does not expressly disclose the noun phrase combination (see above) being "initial noun phrase" and "a target case calculation function generating a combination of sentence rewrites that includes a grammatical case change to one noun

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phrase that corrects the case error combination”. However, this feature is well known in the art as evidenced by Kucera who discloses sentence analyzer (title), comprising initial noun phrase processing of the parsing module and that when agreement errors are detected, the correct noun and verb inflections (grammatical case change and/or sentence rewrites) are generated from the base form, by an inflection procedure (corresponding to target case calculation function), and displayed with a corresponding error message as suggested corrections (column 4, lines 57-65). Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Zamora by specifically providing initial noun phrase processing and a mechanism for detecting and correcting inflectional errors, as taught by Kucera, for the purpose of improving grammatical analysis of natural language text (Kucera: column 1, line 44).

Further, Zamora in view of Kucera does not expressly disclose the grammar checking for a German language sentence. However, this feature is well known in the art as evidenced by Anick who discloses method and apparatus for efficient morphological text analysis using a high-level language for compact specification of inflectional paradigms (title), performing function of morphological text analysis (column 6, lines 6-9), including for the German (column 10, lines 5-6 and APPEDIX III). Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Zamora in view of Kucera by specifically providing a morphological text analysis, as taught by Anick, for the purpose of supporting multiple natural languages (Anick: column 6, lines 6-9).

As per **claim 13** (depending on claim 10), Zamora in view of Kucera and Anick further discloses a subject and any direct object and any indirect object associated with

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the verb phrase, (Zamora: column 5, lines 17-23, 'subject verb agreement'; Kucera: column 34, lines 27-28, 'subject-verb-object concordance rules', and column 24, lines 36, 'he gave the girl a book' (including indirect object)).

As per **claim 14** (depending on claim 10), as stated above, Zamora in view of Kucera and Anick discloses the case error combination is generated without access to the meaning of the sentence, (Kucera: column 4, lines 57-65, 'when agreement errors are detected, the correct noun and verb inflections (which inherently means no access to the meaning of sentence) are generated from the base form, by an inflection procedure').

As per **claim 15** (depending on claim 10), Zamora in view of Kucera and Anick further discloses corrections to the case endings of determiners, adjectives and nouns in the noun phrase, (Kucera: column 5, lines 1-9, 'determiners', 'post-determiners' 'adjectives', noun phrase determination; and Figs 5-6);

As per **claim 16** (depending on claim 10), Zamora in view of Kucera and Anick further discloses a fake subject inserted in the initial noun phrase combination to facilitate the comparing, (Kucera: column 24, lines 3-6, 'a leading verb (imperative) with an implied subject', which is necessarily treated as if there is a fake subject).

As per **claim 17** (depending on claim 10), Zamora in view of Kucera and Anick further discloses a filter removing any sentence with a suspiciously complex combination before the comparing, (Zamora: column 5, line 67 to column 6, line 24, 'the rewrite rules (corresponding to functionality of filter) ... to rule out (remove) those part of speech which are impossible in the particular sentence structure give in the input').

As per **claim 18** (depending on claim 10), Zamora in view of Kucera and Anick further discloses a detector of noun phrase (NP) disagreement in the sentence, (Zamora:

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column 5, lines 24, 'error noted are marked by indicating where subject verb disagreement, split infinitive, a wrong pronoun case'), but Zamora in view of Kucera and Anick does not expressly teach a filtering out the sentence before the comparing when there is noun phrase disagreement. However, a similar feature for ruling out bad parts of speech is well known in the art as evidenced by Zamora himself (see column 5, line 67 to column 6, line 24). Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Zamora in view of Kucera by simply filtering out the parts of disagreement sentence, for the purpose of speeding up further processing (Anick: column 6, lines 6-9).

As per **claim 1**, it recites a method. The rejection is based on the same reason as described for claim 10, because the claim recites same or similar limitation(s) as claim 10.

As per **claims 4-9** (depending on claim 1), the rejection is based on the same reason as described for claims 13-18 respectively, because the claims recite same or similar limitation(s) as claims 13-18 respectively.

3. Claims 2-3 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zamora in view of Kucera and Anick as applied to claims 1 and 10 above, and further in view of well known prior art (MPEP 2144.03).

As per **claim 11** (depending on claim 10), Zamora in view of Kucera and Anick does not expressly disclose "a display of the sentence rewrites in an order from the most likely to the least likely to be accepted by a user". However, an official notice is taken that the feature of displaying alternative selections in an order of higher likelihood first is

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well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify in view Zamora in view of Kucera and Anick by specifically providing displaying alternatives in a higher likelihood first order, for the purpose of easing the selection for the alternative items to display.

As per **claim 12** (depending on claim 10), Zamora in view of Kucera and Anick does not expressly disclose "a display of sentence rewrites limited to no more than three rewrites per noun phrase". However, an official notice is taken that the feature of displaying limited changes for a corrected text is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify in view Zamora in view of Kucera and Anick by specifically providing displaying limited changes for a corrected text, for the purpose of easing the selection for the alternative to display.

As per **claims 2-3** (depending on claim 1), the rejection is based on the same reason as described for claims 11-12 respectively, because the claims recite same or similar limitation(s) as claims 11-12 respectively.

Conclusion

4. Any response to this action should be mailed to:
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
or faxed to:
(703) 872-9306, (for formal communications intended for entry)
Or:
(703) 872-9306, (for informal or draft communications, and please label
"PROPOSED" or "DRAFT")

Patent Correspondence delivered by hand or delivery services, other than the USPS, should be addressed as follows and brought to U.S. Patent and Trademark Office,

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220 20th Street S., Customer Window, Crystal Plaza Two, Lobby, Room 1B03,
Arlington, VA, 22202

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (703) 305-5631. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (703) 305-6954.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

QH/qh
September 27, 2004

Donald L. Storm
PATENT EXAMINER
AU 2654